1976

PERSONNEL

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REVIEW AND APPROVALS

Robert G. Personius 3/28/77
Submitted By Date

Area Office Date

San Francisco Bay
NWR Complex
Refuge

Regional Office Date

Fremont, California
Complex Office

Robert G. Personius

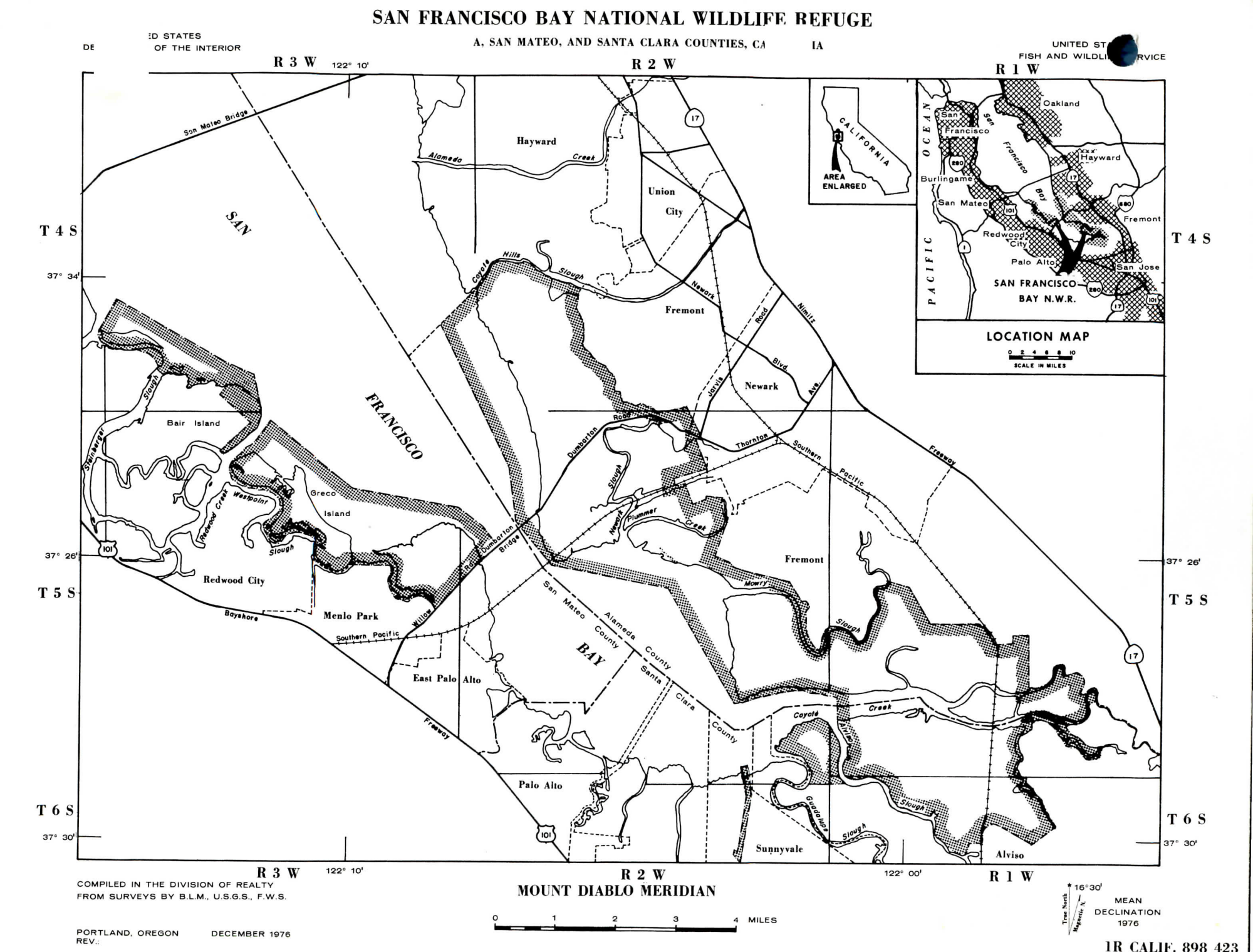
(L-R): Ben H. Crabb, Cathryn T. Osugi, Richard F. Nugent, Diana A. Olsen

SAN FRANCISCO BAY NATIONAL WILDLIFE REFUGE

D[E]D STATES OF THE INTERIOR

A, SAN MATEO, AND SANTA CLARA COUNTIES, CA[LIFORNI]A

UNITED ST[ATES] FISH AND WILDLI[FE SE]RVICE



COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY B.L.M., U.S.G.S., F.W.S.

PORTLAND, OREGON DECEMBER 1976
REV.:

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TABLE OF CONTENTS

I. GENERAL

A. Introduction

The San Francisco Bay National Wildlife Refuge will comprise 23,000 acres of marshes, open water, and salt ponds of the south San Francisco Bay. Its location is especially unique because it provides a major nesting and feeding area on the Pacific Flyway within one of the nation's largest metropolitan areas. The legislation which created the Refuge also established its total acreage. Refuge boundary was determined by the U. S. Fish and Wildlife Service.

By year's end, a Draft Environmental Impact Statement (which addressed the land acquisition aspect of P.L. 92-330) was completed by Refuge and Regional Office staff and forwarded to the Central Office for finalization.

B. Climatic and Habitat Conditions

The climate of the Refuge area is one of mild year-round temperatures, heavy winter rain, and summers characterized by the morning and evening coastal fog and little or no rain.

Because of the prevailing westerly winds from the Pacific, over which the temperature varies very little from summer to winter, winters are mild and summers are cool. On about five days a year, when northeasterly winds have overcome the prevailing westerlies, daytime temperatures may reach into the 90's and 100's. Although the Bay area received only about 50 percent of its normal rainfall in 1976, about 90 percent of the total annual rainfall (15 inches) is usually received in six months, November through April. In the winter the Refuge area may be subject to nighttime and early morning fogs, particularly after a period of rain when skies are clear and the air damp and still.

The winds of the Refuge area are predominantly from the west or northwest, averaging 6 to 8 miles per hour in the winter and early spring, and increasing to an average of 10 miles per hour from April through July.

Daily maximum temperatures of the area range from the middle and high 50's in December through February, to the middle 70's to low 80's in July through September.

In the summer the entire Bay area is subject to frequent inversions. These occur when the cool air moving in from the ocean slides under the warmer air, forcing it upward. The warm air acts as a lid over the Bay area, trapping the pollutants and, especially in the south Bay, producing smog. The most obvious result of this condition is the generally reduced visibility throughout the summer months.

C. Land Acquisition

1. Fee Title

Some progress was made with the California State Lands Commission in regard to its possible claim to the title to some of the property within the Refuge boundary.

Offers were sent to all private owners of lots on Drawbridge Island and the New Chicago Subdivision. Fourteen options were received, totaling approximately four acres. Two owners of improvements on leased land quitclaimed their interests to the Service.

Negotiations with Leslie Salt Co. continued. The condemnation package, covering Leslie's property, was prepared.

2. Easements

Work continued on acquiring rights-of-way for the Refuge. None of the easements or leases were finalized.

3. Other

Staff appraisals of six sets of improvements on lands leased from the Southern Pacific Transportation Co. were completed and approved. Staff memorandum of value on the New Chicago lots was approved. Contracts were executed for the appraisal of Leslie's ownership and for Tracts No. 85 and No. 86.

D. System Status

1. Objectives

For purposes of refuge program scheduling, tentative output figures have been projected for the Refuge's planned public use activities. A vast disparity presently exists between the "current year" outputs and the "maximum level" outputs due in part to the Refuge's present no-land status; the currently claimed outputs basically represent written and oral offsite services rendered to the public versus the onsite activities which shall be claimed subsequent to land acquisition and development.

2. Funding

Operating cost budgets for the Refuge's funded four years are as follows:

Activity No.	Subactivity	FY 1973	FY 1974	FY 1975[1/]	FY 1976[1/]
0141	O&M	44,000			
0113	MB		73,200	118,700	119,700
	MNB		1,000	1,000	
0115	SE		23,100	13,500	14,000
0116	I&R		2,600	14,300	28,300
0201[2/]	Biol. Development			57,000	
	Engineering			3,000	
	Planning			3,000	
TOTALS		$44,000	$99,900	$210,500	$162,000

1/ Funds for Activities 0113, 0115 and 0116 are for the Refuge Complex, i.e., San Francisco Bay, San Pablo Bay and Farallon National Wildlife Refuges.

2/ Funds for Activity 0201 represent a one-time expenditure for the Phase III contract, i.e., detailed designing of the public use facilities to be constructed during Development Stage I.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Nothing to report.

B. Maintenance

Nothing to report.

C. Wildfire

Not applicable.

III. HABITAT MANAGEMENT

A. Croplands

Not applicable.

B. Grasslands

Not applicable.

C. Wetlands

Refuge personnel attended the San Jose City Council's December meeting with Division of Ecological Services staff to persuade Council members not to change land use classification of two parcels (owned by Leslie Salt Co.) adjacent to the proposed Refuge in Alviso. In keeping with the "buffer zone" concept for the Refuge, as formerly endorsed by previous San Jose Council members, Congressman Don Edwards testified

against the requested reclassification of "open space" to "light industry." The Council did not vote on the issue but took it under advisement.

Refuge personnel met with representatives from the State Attorney General's Office, California Department of Fish and Game, San Francisco Bay Conservation and Development Commission, Westbay Community Associates, and International Shellfish Enterprises re the latter's proposed mariculture and shellfish harvesting plans for parts of the south San Francisco Bay (portions of which may coincide with the Refuge's wetlands). International Shellfish Enterprises reported on its sanitary experiments of relaying polluted clams from San Francisco Bay to Tomales Bay. They claim that this procedure would produce a marketable product. Considerable studies are still necessary before commercial operations would be allowed by the State of California.

D. Forestlands

Not applicable.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

The year-to-year cooperative agreement was renewed between the Service and Mobil Oil Estates Limited to provide Refuge status to a sensitive bird nesting area on Bair Island prior to its acquisition. The leased 125-acre area includes the only wading bird rookery in south San Francisco Bay.

IV. WILDLIFE

A. Endangered Species

The California least tern was first discovered nesting on Bair Island in 1969. The following table is a brief breeding history of the colony:

1969	15 Pairs
1970	19 Pairs
1971	17 Adults
1972	0
1973	0
1974	8 Pairs
1975	14 Nests
1976	15 Nests

A colony of 8 nests located on June 19 failed to produce young. A second colony found on July 12 comprised 15 nests. At least 30 adult terns were observed at this colony. Later checks of the colony suggest that most pairs produced young; however, no young birds were observed on surveys of August 4 and 11. No other least tern colonies were located on the Refuge.

California clapper rails were censused during the high winter tides. In January 1976, Refuge personnel assisted Division of Ecological Services personnel in a census of the marshes around Newby Island, along Coyote Creek, and along Alviso Slough where three clapper rails were observed.

A comparison with previous censuses is as follows:

	Jan. 1974	Nov.-Dec. 1976
Ideal Cement Marsh	35	1
Marsh between Plummer Creek and Mowry Slough	77	59
Coyote Creek and Mowry Slough	11	1
Guadalupe Slough	---	0
Alviso Slough	---	0
Audubon Marsh	---	7

In 1976 the marshes were censused without the help of a dog to flush birds which would partially account for the lower totals. However, populations appear to fluctuate tremendously from year to year.

Studies of the salt marsh harvest mouse are described in Section VI. A.

California brown pelicans utilize the dike between salt ponds A9 and 10 and the bases of transmission towers along the San Mateo Bridge as resting areas. Up to 100 brown pelicans were observed with 400 white pelicans on the dike this fall.

One peregrine falcon was observed on November 23 near the Alameda Creek Flood Control Channel. This bird was also seen on two other occasions and apparently wintered in the area.

The San Francisco garter snake is not found within the Refuge, but occurs from northern San Mateo County southward along the east slope of the Santa Cruz Mountains to the Santa Clara County line, and along the coast west of this region southward to Point Ano Nuevo. The snake is commonly found in vegetation bordering ponds and lakes. Fewer than 20 populations are currently known and most are composed of less than 50 adults.

A black rail was observed in the Audubon Marsh, south of the Dumbarton Bridge on November 21.

B. Migratory Birds

1. Waterfowl

On an aerial census of San Francisco Bay on January 7, a total of 140,000 ducks and 7,115 coots were counted. The main species were scaup (60,285), canvasback (26,025), scoter (19,100), ruddy duck (12,200), shoveler (7,760), pintail (7,610), mallard (3,585), and wigeon (2,960).

A botulism outbreak occurred in south San Francisco Bay again. Approximately 3,000 dead birds (mainly pintail and shoveler) were picked up and 635 sick birds were treated.

Personnel from the National Fish and Wildlife Health Lab (NFWHL) toured the area to review the botulism problem. Botulism research in south San Francisco Bay is needed for several reasons. The Refuge, which is located in tidal, coastal habitat with water of varying salinity and influenced by sewage effluent, differs considerably from inland areas where most previous studies have been conducted. An environmental education center will be located near the affected area and the problem will be in full view of the public who will demand action to prevent bird losses. Eight endangered California clapper rails were picked up during the 1974 outbreak. The Service is responsible for the restoration and protection of this species and a research program would be a step toward assuming that responsibility.

Dr. Friend (NFWHL) suggested several subjects for study, such as the role of salt ponds and sewage effluents and the effect of restoring former marsh to tidal action which may create botulism outbreaks. Dr. Friend also stated that because of the interrelationships of water management and water quality with botulism, a joint project funded by the Corps of Engineers, the Service, and possibly the Environmental Protection Agency may be feasible.

A botulism research package was submitted as part of the Refuge's program schedule.

Local parks and Audubon chapters were alerted to the potential threat of duck plague or duck virus enteritis (DVE) to waterfowl populations. One meeting was held to discuss DVE; and the group made recommendations to reduce the threat of disease and to utilize birds that are eliminated through donation to charitable organizations, zoos or animal rehabilitation centers.

Waterfowl gizzards were collected from diseased and hunter-harvested birds for lead shot analysis.

2. Marsh and Water Birds

The following table is a summary of nest counts on Bair Island.

	1974	1975	1976
Snowy egret	700	96	201
Great blue heron	21	15	24
Black-crowned night heron	375	97	124

In 1976 an additional 225 nests were unidentifiable. The colony, which covered 3.11 acres, was not affected by rat depradation as was the case in 1974.

A permit was issued to the California Department of Fish and Game to collect snowy egret, black-crowned night heron, and great blue heron eggs for pesticide analysis.

A Refuge permit was issued to Michael Rigney, San Jose State University, to band snowy egrets, black-crowned night herons, and great blue herons. One of the purposes of the banding will be to determine recruitment to the colony. Morphological data will also be gathered to determine growth patterns.

On November 23, 23 sandhill cranes were observed flying over the Alameda Creek Flood Control Channel.

3. Shorebirds, Gulls, Terns and Allied Species

Two Caspian tern colonies are located within the Refuge. One colony, which is located on a dike between salt ponds 4 and 5 one mile northwest of Drawbridge, contained 77 scrapes. The other colony, located on a dike on the north side of Bair Island, contained approximately 200 scrapes.

Other breeding species include the snowy plover, killdeer, American avocet, black-necked stilt, and Forster's tern. No production figures are available.

4. Raptors

Nothing to report.

5. Other Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Not applicable.

2. Other Mammals

On Mowry Slough a peak population of 234 subadult and adult harbor seals was recorded on April 22, and a peak of 80 pups was recorded on May 11.

Six dead harbor seals were collected and donated to the Museum of Vertebrate Zoology of the University of California, Berkeley.

3. Resident Birds

Nothing to report.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

On September 13, Interior Secretary Kleppe accepted a $600,000 gift pledge from the Clark Foundation.

The ceremony was held at the Palo Alto Baylands Interpretive Center, Palo Alto. Helicopter tours of the Alviso Unit of the Refuge were conducted by the staff. Among the 75± people attending were Federal Representatives Don Edwards, Pete McCloskey and Leo Ryan; Army Corps of Engineers personnel; Fish and Wildlife Service representatives George Milias, Kahler Martinson, John Mattoon and John Sayre; invited local conservationists; and prospective Clark Foundation donors.

2. Off-Refuge

The Refuge staff devoted considerable time to public relations activities during the year. Many movie/slide/talk presentations were made to service and conservation organizations and to local schools. Demand for the staff as resource people has been high.

Coverage of Refuge acquisition and the proposed development by the news media was excellent. Public exposure was provided through a number of television appearances and newspaper articles. Staff members have become "regulars" on the Gene Anson's Conservation Bulletin show. This is a weekly show on a local cable TV system.

The four-unit endangered species display, built for the San Francisco Law Enforcement Port-of-Entry program, was transferred to the Refuge. Over 1,200 people observed the endangered species and Refuge displays exhibited at the City of Newark's Bicentennial celebration on July 4. The endangered species display was on exhibit at the Coyote Point Museum, San Mateo County Parks and Recreation District, from September through December.

The Refuge staff participated in an environmental education resources reception which included the East Bay Regional Park District, Audubon Society, Tri-City Ecology Center, American Nature Study Society, National Conservation Education Association, and California State University at Hayward.

The purpose of the reception was to inform teachers in the Bay area of the environmental resources available to them.

B. Recreation

1. Wildlife Oriented

At the close of 1976, the Refuge "owns" the 164-acre "New Chicago Marsh" area within the Alviso Unit, and a 35-acre parcel which was picked up as excess property from the Moffett Field Naval Air Station. Negotiations continue toward a negotiated settlement with the Leslie Salt Co. for 15,000± acres.

The first step in preparing a "skeleton" public use plan has begun. We will begin with a review of the biological necessities so that we know how much flexibility remains for public use. Some of the things to be considered are endangered species habitat preservation; waterfowl disease control; waterfowl maintenance; and raptor, shorebird, and marine mammal use of the Refuge area.

2. Non-Wildlife Oriented

Not applicable.

C. Enforcement

The 23,000-acre south Bay Refuge is a portion of the San Francisco Bay Refuge Complex which includes the Farallon National Wildlife Refuge and Wilderness Area, 211 island acres lying approximately 30 miles west of San Francisco; the San Pablo Bay National Wildlife Refuge consisting of 11,700 acres of estuarine and upland habitat; the Ellicott Slough National Wildlife Refuge, 128 acres set aside for the preservation of the endangered Santa Cruz long-toed salamander; and the Salinas Lagoon National Wildlife Refuge, comprising 518 acres of the following habitat: ocean, beach, lagoon, river, sand dunes, salt marsh, grassland, and former cultivated areas. Purchase of approximately 2,200 acres of marsh, estuarine and salt pond habitat

at Moss Landing has been approved to create the Elkhorn Slough National Wildlife Refuge.

While the entire Refuge Complex lies within a major metropolitan area of some five million people, the San Francisco Bay National Wildlife Refuge and facilities will probably receive the heaviest visitor use. The Refuge has been divided according to degree of habitat sensitivity into four visitor use classifications: open, controlled, conducted and restricted. Fourteen sites are proposed for interpretive facilities ranging in scale from visitor contact points to a major facility like the Headquarters-Interpretive Center. In addition, two fishing piers and some 40± miles of boardwalks, dike trails, bicycle trails and roads open to the public are proposed.

It will be the responsibility of the Refuge Complex to establish a Public Safety-Law Enforcement Unit capable of providing security for the Leslie Salt Co. facilities, and Refuge facilities and equipment; safety and protection of the Refuge staff and visitors; and which will maximize enforcement of Refuge regulations and State-Federal fish and wildlife laws, including protection of six endangered species. Emphasis will be placed on maintenance of "high-visibility" field patrol.

Examples of problems expected to be encountered on the Refuge range from structural fires to loss of human life. During the past twelve months the following incidents occurred within or adjacent to lands scheduled to become part of the Refuge: two structural fires, one due to vandalism; the bodies of three murder victims recovered, one associated with narcotics; one aircraft crash resulting in two fatalities; one fatality on the Southern Pacific tracks when a train hit a walking or sleeping individual; and one accidental drowning. Four cases of vandalism against Refuge property were reported as were two burglaries to the office located in the center of the Fremont business community.

Fish and wildlife enforcement in the area was performed, for the most part, by local State wardens making "occasional" visits. Approximately 80 citations were issued and are summarized in the following table.

State Code	50 CFR	Violation Type	No. Citations Issued
T-14; 504	20.24	Overlimits (Ducks)	4
T-14; 506	20.23	Late Shooting (Waterfowl)	4
T-14; 507	20.21(b)	Method of Take (Unplugged Shotgun)	2
T-14; 509	16 USC; 718(a)	No Federal Duck Stamp	1
T-14; 300		Pheasants (Closed Season)	3
10500(b); F&G		Illegal Possession Firearm	6
10500(d); F&G		Discharge Firearm	1
3800; F&G	21.11	Take - Nongame Birds	12
2016; F&G		Hunter Trespass	8
T-14; 700		Hunting Without License	8
T-14		Fishing Without License	15
T-14; 2865		Fishing Two Poles	11
T-14; 21.40		Size (Short Stripers)	2
7890; F&G		No Commercial Fishing License	1
T-14; 510		No State Duck Stamp	2

Enforcement and public safety will be provided by a staff of Police Officers and/or Public Use Specialists-Law Enforcement. These individuals will be trained and qualified to deal with all facets of our public safety program.

VI. OTHER ITEMS

A. Field Investigations

1. Salt Marsh Harvest Mouse

A study of salt marsh harvest mice (Reithrodontomys raviventris raviventris) was completed in 1976. The study appeared to invalidate two common assumptions: that raviventris occurs only in tidal salt marshes and that Reithrodontomys megalotis occurs only in

grasslands or in small numbers, in the grassland-marsh interface. The study recommended that further trapping be conducted in two specific areas, that the possibility that marsh-dwelling megalotis has undergone genetic changes to extend the ecological range of the species be investigated, and that the marginal habitats utilized by raviventris be preserved in their present condition or expanded and returned to optimal status.

An ongoing project on the salt marsh harvest mouse is a study of potential interdeme movements in optimal and marginal marshes in south San Francisco Bay. The objectives of this study are to ascertain the amount of movements between populations of harvest mice during a period of a year (little to no interpopulation movement would indicate the possibility of genetic stagnation, especially in small populations) to learn more about the biology of the subspecies, and to provide the Refuge with further information and suggestions to help develop effective management plans. After 700 trap nights only 3 megalotis and no raviventris were caught. The significance of these results has yet to be determined.

The second phase of a monitoring study of harvest mice in four marshes is in progress. Low capture success has precluded drawing any conclusions regarding these populations.

2. Salt Marsh Song Sparrow

A research project to determine the population status, distribution, and habitat requirements of endemic salt marsh song sparrows of San Francisco Bay was completed. This was a Federal-State funded project with the San Jose State University. The researcher was Brian James Walton. The project found that three races of song sparrows occur in the marshes of the San Francisco Bay system. Historically, salt marsh song sparrow habitat consisted of vast, continuous salt, fresh and brackish marshes. Habitat alteration, most notably in the range of the Alameda song sparrow, has reduced

habitat to isolated marshes and intervals of vegetation along streams and sloughs. Territory size remains among the smallest reported for song sparrows. Density of territories, censused by a "singing male count," remains comparable to historic densities. Geographical distribution has decreased, most notably in the range of the Alameda song sparrow. Twenty-five permanent census areas have been established. Factors affecting race differentiation and marshland stability, and the song sparrow welfare factors are discussed in the report. The ability of song sparrows to adjust to changing environments and maintain small demes of 100 to 200 individuals has enabled each population to maintain itself in the remaining stable Bay marshes.

3. Salt Marsh Yellowthroat

The salt marsh yellowthroat project was conducted by Margaret L. Foster, San Jose State University, and funded by the California Department of Fish and Game, Nongame Wildlife Investigations.

Surveys of salt marsh yellowthroat breeding habitat locations, population size, and breeding status have been conducted in the Bay area during the 1975 and 1976 breeding seasons. Approximately 400 acres of suitable breeding habitat were found in 1975 and visited again in the 1976 survey. Greatest densities were found in upper Napa Marsh, south Olema Marsh, and Coyote Hills Regional Park. Habitat most conducive to salt marsh yellowthroat breeding was Typha; Scirpus; and a thick, mixed brush complex of dock (Rumex), mustard (Brassica), nettle (Urtica), a star thistle (Centaurea), gum plant (Grindelia), and various grasses. Density of vegetation, rather than amount of water, seemed to be the critical determinant of suitable habitat. Nevertheless yellowthroat habitat is a water dependent one, and sparce rainfall during the 1975-1976 winter had a considerable indirect impact on breeding success. In 1976 the most stable populations were found in marshes where the brackish or freshwater character is maintained artificially, such as sewage outfalls and flood control basins.

B. Cooperative Programs

Nothing to report.

C. Items of Interest

In accordance with P.L. 88-523, a revenue sharing payment of $86.41 was made to Santa Clara County.

Ben Crabb reported for duty as Wildlife Biologist (Law Enforcement) on April 11. Ben transferred from the MNB Program, Washington, DC.

Credit for preparation of Parts I, II and III go to Dick Nugent. Cathy Osugi prepared Part IV and all sections except Enforcement for the Farallon National Wildlife Refuge. Ben Crabb prepared Parts V and VI, and Diana Olsen typed and edited the final reports.

D. Safety

The Refuge staff had a perfect safety record for the reporting period. The Public Safety-Law Enforcement Unit will assume the Complex's Safety Officer responsibilities once property acquisition is completed and additional staffing begins.

SAN PABLO BAY NATIONAL WILDLIFE REFUGE

SOLANO AND SONOMA COUNTIES, CALIFORNIA

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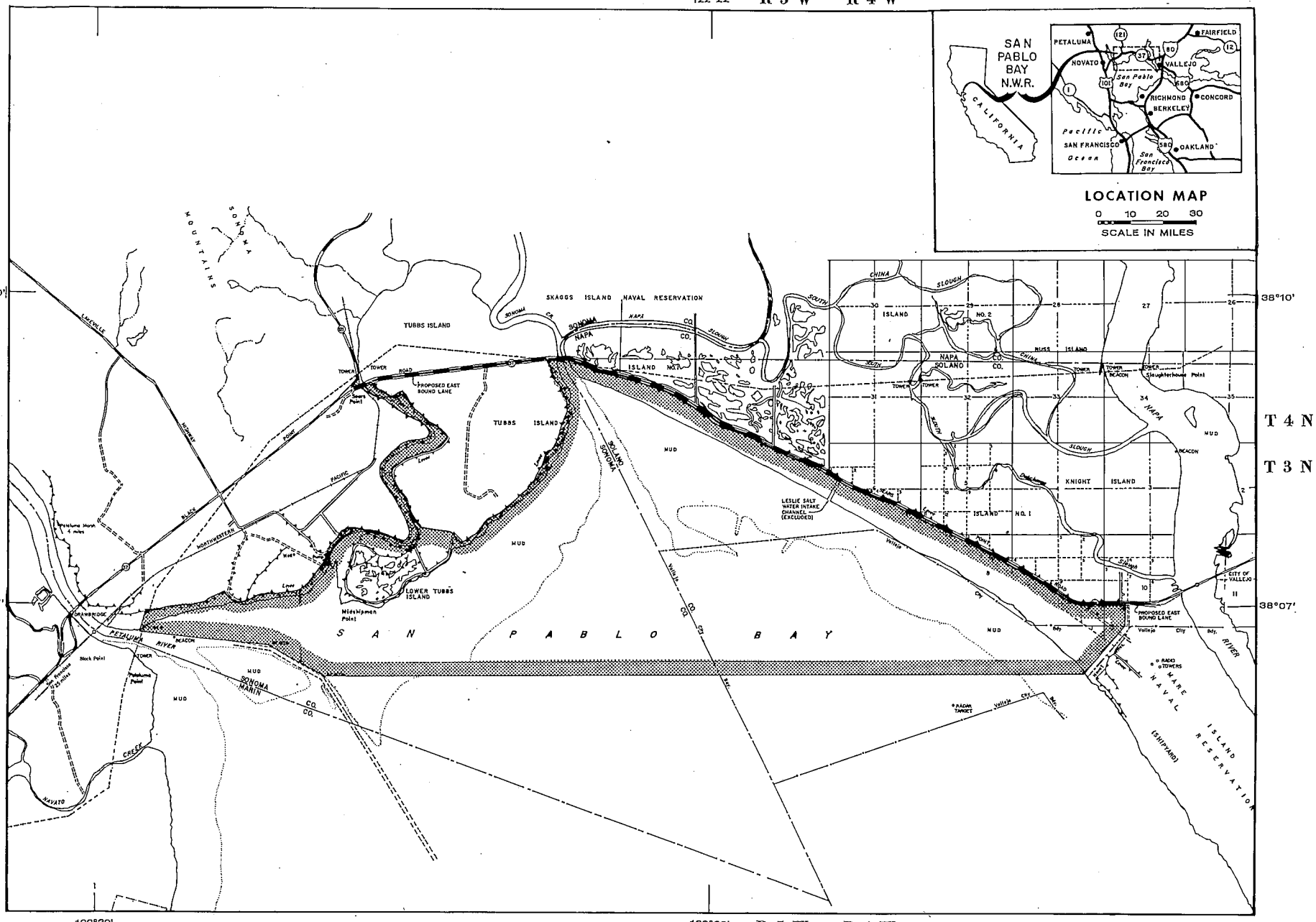
DEPAR[redacted]NT OF THE INTERIOR

UNITED S[redacted]
FISH AND WILD[redacted]ICE



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COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY USGS, BLM, FWS

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PORTLAND, OREGON FEBRUARY 1976
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TABLE OF CONTENTS

I. GENERAL

A. Introduction

The San Pablo Bay National Wildlife Refuge was officially included in the San Francisco Bay National Wildlife Refuge Complex on September 1, 1973. Administration of the Refuge was transferred on that date from the Vallejo office to the Fremont headquarters of the San Francisco Bay Refuge Complex.

Land acquisition for the Refuge has been extremely slow. In prior years the Service has attempted to negotiate settlements with the several private landowners, but has been unable to close cases and pay landowners because of a possible public-trust claim to their property by the State. The adverse claim is based on the State's right to former and present tide and submerged land. Progress in acquisition continued to be stalled because the State Lands Commission did not find the time to define its inherent rights to the properties.

B. Climatic and Habitat Conditions

The Bay area has a pleasing year-round climate with dry, warm summers and mild winters. Approximately 18 inches of rain falls annually, principally during the winter months. Heavy fog and some sharp winter frosts occur occasionally. The growing season usually extends year-round. Snowfall is almost unknown. Temperatures average about 45° F in winter and 68° F in summer.

C. Land Acquisition

1. Fee Title

Progress in acquisition during 1976 continued to be impeded because of the undefined adverse claim by the State.

2. Easements

Of the 11,700 acres approved for acquisition in 1970, approximately 10,000 acres are State-owned tidelands. A 66-year lease and a survey of the tidelands have been prepared, but have not been presented to the State Lands Commission.

3. Other

Not applicable.

D. System Status

1. Objectives

For purposes of refuge program scheduling, tentative output figures have been projected for some of the Refuge's planned public use activities. No outputs are currently claimed for the Refuge because of its nonrefuge status.

2. Funding

Subsequent to the September 1, 1973 incorporation of the San Pablo Bay Refuge into the San Francisco Bay National Wildlife Refuge Complex, FY 1974 was the only year the Refuge had a separate operating cost budget, which consisted of:

Activity No.	Subactivity	FY 1974
0113	MB	17,800
	MNB	1,000
0116	I&R	200
TOTAL		$19,000

Subsequent fiscal year funding for the Refuge has been via the San Francisco Bay Refuge Complex's operating cost budget.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Nothing to report.

B. Maintenance

Nothing to report.

C. Wildfire

Nothing to report.

III. HABITAT MANAGEMENT

A. Croplands

Nothing to report.

B. Grasslands

Nothing to report.

C. Wetlands

Nothing to report.

D. Forestlands

Not applicable.

E. Other Habitat

Not applicable.

F. Wilderness and Special Areas

Not applicable.

G. Easements for Waterfowl Management

Not applicable.

IV. WILDLIFE

A. Endangered Species

Twenty-one salt marsh harvest mice were trapped in the marsh along the Leslie Salt intake channel in June. In November 1974, twelve harvest mice were trapped from this same area. No mice caught in 1974 were retrapped in 1976.

A California clapper rail census using tape recorded calls was conducted in March with California Department of Fish and Game personnel. No rails were seen or heard.

B. Migratory Birds

On an aerial census in December, approximately 5,000 canvasbacks were counted.

Gizzards were collected from hunter-harvested birds for lead shot analysis.

C. Mammals and Non-Migratory Birds and Others

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

The Refuge staff has been working with the Regional Office on a proposed public use plan. It had been planned for release to the public in December; however, we were unable to arrange a meeting with the principal parties until early January. The meeting will be held at Lower Tubbs Island and will have representatives from the Fish and Wildlife Service, California Department of Fish and Game, The Nature Conservancy, and the San Pablo Bay Sportsmen present.

When the plan is finished, it will be made available to all interested parties for review and comment.

2. Off-Refuge

See San Francisco Bay NWR.

B. Recreation

1. Wildlife Oriented

The hunting plan is a part of the proposed public use plan now nearing the completion stage. At Lower Tubbs Island and adjacent tidelands, there is an existing conflict between user groups. The proposed hunting plan will accommodate both hunters and nonhunters through a space-time zoning concept. A meeting will be held in January or February between the interested parties (The Nature Conservancy and San Pablo Bay Sportsmen) to hopefully agree on a compromise of the space-time zoning concept.

2. Non-Wildlife Oriented

Not applicable.

C. Enforcement

The San Pablo Bay National Wildlife Refuge lies at the north end of San Francisco Bay between the Petaluma River outlet and the City of Vallejo. It is the winter home of approximately half the canvasback population of the Pacific Flyway -- along with great numbers of loons, grebes, cormorants and terns.

Historically the area has been plagued with "late shooters" and nongame bird shooting incidents. While the Refuge staff has made a few patrols in the area, the bulk of the enforcement responsibilities fell to the State. During the past year no State wardens were assigned the Sonoma County portion of the Refuge; therefore State enforcement was limited to a few occasional

patrols. The following table summarizes the kinds and numbers of citations issued.

State Code	50 CFR	Violation Type	No. Citations Issued
3800; F&G	21.11	Take - Nongame Birds	15
T-14; 506	20.23	Late Shooting (Waterfowl)	4
T-14; 700		Hunting Without License	1
T-14; 2865		Fishing With Two Poles	11
T-14; 700		Fishing Without License	5
T-14; 21.40		Size (Short Stripers)	9

VI. OTHER ITEMS

A. Field Investigations

Nothing to report.

B. Cooperative Programs

Nothing to report.

C. Items of Interest

See San Francisco Bay NWR.

In accordance with P.L. 88-523, a revenue sharing payment of $1,359.55 was made to Solano County.

D. Safety

See San Francisco Bay NWR.

TABLE OF CONTENTS

I. GENERAL

A. Introduction

The Farallon National Wildlife Refuge consists of a group of rocky islets totalling 211 acres, and is located 30 miles west of San Francisco. The islets extend for about 8 miles in a northwesterly direction, and are roadless, essentially inaccessible, and with one exception undeveloped. A U. S. Coast Guard lighthouse installation exists on the largest island, Southeast Farallon.

The southern Farallons include several rocks which total about 120 acres. The main island, Southeast Farallon, reaches a height of 340 feet above sea level and is approximately 70 acres. Two miles northwest is Middle Farallon, a single rock 50 yards in diameter and 20 feet high. The North Farallons are 4 miles north and consist of 2 clusters of islets and rocks, extending over 1 mile. They reach a height of 155 feet above sea level. Noonday Rock is the westernmost island, located about 3 miles northwest of the North Farallons.

B. Climatic and Habitat Conditions

The climate is characterized by frequent strong winds and dense fog. Rainfall occurs mainly during the winter, with summer moisture usually limited to damp fogs. Annual precipitation is about 10 inches. Approximately 8 inches were recorded in 1976.

Temperatures are almost consistant year-round, seldom falling below 40° F or rising above 60° F.

C. Land Acquisition

The Refuge was established by Executive Order in 1909. The Southeast Farallon was subsequently added by secondary withdrawal through Public Land Order in 1969.

D. System Status

1. Objectives

The Farallon National Wildlife Refuge was officially included in the San Francisco Bay National Wildlife Refuge Complex on September 1, 1973, coinciding with the similar transfer of the San Pablo Bay Refuge to the San Francisco Bay Refuge Complex. No formal objective setting has been done for the Farallons.

2. Funding

In FY 1974 the Farallon National Wildlife Refuge was appropriated an operating cost budget as follows:

Activity No.	Subactivity	FY 1974
0113	MB	15,400
	MNB	500
0116	I&R	1,600
TOTAL		$17,500

The major expenditure was for a GS-5 salary obligation paid to the Point Reyes Bird Observatory (refer to Section VI-B).

Similar funding appropriations and expenditures were evidenced in FY 1975. Accounting procedures were changed; however, the Farallon Refuge was treated as a substation of the San Francisco Bay National Wildlife Refuge and the former's OCB was incorporated into the latter's base budget allotment.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

The U. S. Coast Guard began construction of a concrete retaining wall around the two diesel fuel tanks to contain fuel spillage.

Equipment acquired included a refrigerator and water heater for the Refuge residence.

Two 5' x 10' entrance signs were erected on the Southeast Island by the U. S. Coast Guard; one was placed at the north landing and the other at the east landing.

B. Maintenance

The U. S. Coast Guard replaced the "billy pugh" which is attached to the boom and is used to transport people between boat and land.

C. Wildfire

Not applicable.

III. HABITAT MANAGEMENT

Not applicable.

IV. WILDLIFE

A. Endangered Species

A peak of five peregrine falcons was observed on January 18. At least one peregrine was observed during nine months of the year.

The California brown pelicans began arriving in May and remained for the rest of the year. Their population peaked on September 18 when 1,246 individuals were observed.

One bald eagle, a new record for the island, was observed in October.

B. Migratory Birds

1. Waterfowl

Waterfowl are observed rarely. The most common species is the surf scoter.

A snow goose was added to the list of accidental bird sightings.

2. Marsh and Water Birds

Production generally decreased from 1975 as shown in the following table.

	No. Pairs		Chicks Fledged/Pr.		Total No. Chicks Fledged	
	1975	1976	1975	1976	1975	1976
Ashy storm petrel	2,000	2,000	.8	.72	1,600	1,440
Leach's storm petrel	700	800	.8	.72	560	576
Double-crested cormorant	55	90	1.8	1.0	99	90
Brandt's cormorant	11,000	11,000	2.1	.6	23,100	6,600
Pelagic cormorant	375	375	2.3	0	862	0

The lower number of chicks pledged per pair in 1976 may be attributed to the very high winds. Intermittent northwest winds are needed for upwelling of nutrients. However, during the 1976 breeding season prolonged winds prevailed and food was not readily available to the foraging parents.

Cormorants were banded by Point Reyes Bird Observatory (PRBO) personnel.

3. Shorebirds, Gulls, Terns and Allied Species

Production in this group of birds was also lower than in 1975.

	No. Pairs		Chicks Fledged/Pr.		Total No. Chicks Fledged	
	1975	1976	1975	1976	1975	1976
Black oystercatcher	9	18	.89	1.3	8	23
Western gull	11,500	11,000	1.8	1.09	20,700	11,990
Common murre	14,000	14,000	.95	.76	13,300	10,640
Pigeon guillemot	1,000	1,000	1.3	.55	1,300	550
Tufted puffin	35	70	.9	.8	31	56
Rhinoceros auklet	11	20	.8	.8	9	16
Cassin's auklet	52,500	50,000	.7	.61	36,750	30,500

Only the black oystercatcher produced more chicks per pair. Increased production by tufted puffins and rhinoceros auklets was due to 100 percent increases in the number of breeding pairs.

Western gulls and Cassin's auklets were banded by PRBO personnel.

The California Academy of Sciences had refuge permits to salvage birds and mammals. In addition, PRBO also had refuge permits to salvage birds.

4. Raptors

A maximum of two American kestrels were observed on several occasions. A red-tailed hawk was observed once in November and once in December. One western burrowing owl was present from September through December.

5. Other Migratory Birds

A black-chinned hummingbird and yellow-bellied flycatcher were two species added to the list of accidental occurrence. These and other land birds which are blown off their normal migration routes were banded by PRBO personnel.

C. Mammals and Non-Migratory Birds and Others

1. Game Mammals

Not applicable.

2. Other Mammals

a. Pinnipeds

The Steller sea lion breeding population (June-July) appears to have stabilized at about 130 animals. The reproductive output of the population remained poor in 1976. Fourteen pups were born to 98 females for a pregnancy rate of 14.3 percent -- similar to 3 previous years. Pup survival also remained poor; 5 were stillborn and 1 died within 2 weeks of birth. Mortality rate was 42.9 percent -- very close to the 42.1 percent average of the previous 3 years. Premature stillbirths accounted for 35.7 percent of all births and is comparable to the 28.9 percent average from 1973-1975. The reason for the high incidence of stillbirths is unknown.

Up to 1,150 California sea lions hauled out during the spring of 1976. The highest count was less than the 1,400 counted in 1974 and 1975, but high numbers were maintained over a longer period. As in 1974 and 1975 one pup was born, but it is suspected that the pup died.

The peak number of 23 harbor seals in August 1976 was a 26 percent increase over the previous high count. At least 3 pups were born in 1976 -- the same number as in 1975.

A peak of 446 northern elephant seals was present during the spring molt, which is a 33 percent increase over the 1975 peak. Sixty elephant seals were born -- almost doubling the number born in 1975. Fifty-six of the 60 pups survived to weaning; one died 36 days after.

Low pup mortality probably resulted from the fact that almost all cows pupped on an area which is nearly free from the effects of high tides. In a small area high tides increase cow density and aggression, and also wash away some pups.

Three dead elephant seal pups were collected and donated to the University of California at Berkeley, Museum of Vertebrate Zoology.

On August 19, one hauled out female northern fur seal was observed in exactly the same spot where one was seen on August 23, 1974. This is the fourth sighting since 1968.

b. Cetaceans

During the 1975-1976 gray whale migration, whales passed by the island during a shorter time span and peak numbers (average 14.4 animals sighted per day) exceeded those in other years by a wide margin. More than 84 whales were observed on December 31.

Three humpback whales were seen on four days in August.

Killer whales were observed twice in May. In July an adult male washed in dead and its skull was salvaged by the California Academy of Sciences.

Individual minke whales were seen twice and 12 dall porpoises were seen once.

c. Rodents

The house mouse, the only nonmarine mammal, is abundant.

3. Resident Birds

Nothing to report.

4. Other Animal Life

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

Nothing to report.

B. Recreation

1. Wildlife Oriented

Public use is restricted because of the inaccessibility of the Refuge and the sensitivity of the breeding species to human disturbance. Use was limited to Audubon sponsored offshore birding trips and professional wildlife photographers.

2. Non-Wildlife Oriented

Not applicable.

C. Enforcement

The unauthorized operation of aircraft remains the primary enforcement problem on the islands. Effective April 2, 1976, 50 CFR 26.32 was changed from a low-altitude flight being a violation to the requirement that wildlife harassment is necessary in order to have a citable incident.

Contract employees from the Point Reyes Bird Observatory (PRBO) are stationed on the island and report aircraft violations as well as boating harassment and shooting incidents. Refuge staff prepared a violation reporting form for use by PRBO personnel. This has resulted in uniform reports from the island and has assisted in transmitting cases to the Courts. We are now sending letters to pilots and/or registered owners of aircraft who are observed making low-altitude flights, without wildlife harassment, explaining 50 CFR 27.34 and FAA regulations.

Four cases involving overflights of the Farallons are pending or being processed by the Courts. In addition, three "informational" letters were sent to pilots/registered owners.

VI. OTHER ITEMS

A. Field Investigations

Refuge permits were issued in 1976 to the following people: (1) Barbara Margolis, San Francisco State University, to study the morphological and evolutionary aspects of the pectoral muscles and related bones in alcids; (2) Douglas Nelson, University of Michigan, to establish a descriptive catalog of the display behavior of four species of nesting alcids, to evaluate factors which influence the form and mode of communication transfer, and to examine in one species the relationship between the forms of displays and their functions; (3) Eric Gamble, Scripps Institute of Oceanography, to collect invertebrates as part of a worldwide effort to analyze mussels for heavy metals, halogenated hydrocarbons, transuranics and petroleums which would provide information on how man's activities are altering oceanic composition; (4) Robert Gisiner, Hayward State University, to compare the behavior of the Farallon Steller sea lions with those from Ano Nuevo.

The Point Reyes Bird Observatory (PRBO) personnel conduct most of the Farallon research. One long-term study involves the ecological relationships between the breeding seabirds. PRBO also has a contract with the Marine Mammal Commission to provide information on pinnipeds and cetaceans on or near the Farallons.

The Desert Research Institute, University of Nevada, is studying the character of marine fog as compared to continental fog.

B. Cooperative Programs

The U. S. Fish and Wildlife Service has cooperative agreements with the U. S. Coast Guard and the Point

Reyes Bird Observatory. The Coast Guard's main responsibility is to maintain the aids to navigation. They also provide transportation to and from Southeast Farallon as well as fuel oil and water.

The PRBO provides wildlife information and maintains a year-around presence on Southeast Farallon. They are paid an equivalent of a GS 5-1 for these services. Jane Church became Director of PRBO in July. PRBO's resident Farallon staff includes Harriet Huber, Ron LeValley and Steve Morrell.

C. Items of Interest

The U. S. Congress's Conservation, Energy and Natural Resources Subcommittee conducted a hearing in San Francisco on radioactive waste disposal problems. Two disposal subsites, which are located about 40 and 50 miles west of San Francisco near the Farallons, received 47,500 drums containing approximately 14,500 curies of radioactivity from 1951 to 1953.

The Environmental Protection Agency (EPA) surveyed these sites in 1974 and 1975, and found that some of the barrels had leaked and that the level of plutonium-239, 240 ranged from 2 to 25 times higher than the maximum expected sediment concentration that could have resulted from nuclear weapons testing fallout. However, the actual numerical value for the highest contamination level was extremely low -- only 5×10^{-4} microcuries or 5-billionths of a gram per kilogram of dry sediment which is well below any marine environmental concentration of health significance.

The only route of exposure to man would be by ingestion of contaminated marine fish, but they are not known to bioconcentrate plutonium to any appreciable extent. EPA concluded that the concentrations found in both the 3,000 and 6,000-foot depths near the Farallons did not present health risks to man or to the marine environment at this time. EPA will continue to analyze sediment and monitor the radioactivity, if any, in one species of edible fish.

An interesting sidelight was the presence of large, white vasiform hexactinellid sponges which are probably of a new genus. The newspapers contained stories of giant mutant sponges growing on the drums. EPA stated that it is extremely unlikely that there is any correlation between the size of the sponges and the contents of the drums.

Cathy Osugi wrote all sections of this report except I-D. which Richard Nugent wrote, and V-C. which Ben Crabb wrote.

D. Safety

No accidents to U. S. Fish and Wildlife, U. S. Coast Guard or Point Reyes Bird Observatory employees occurred in 1976.

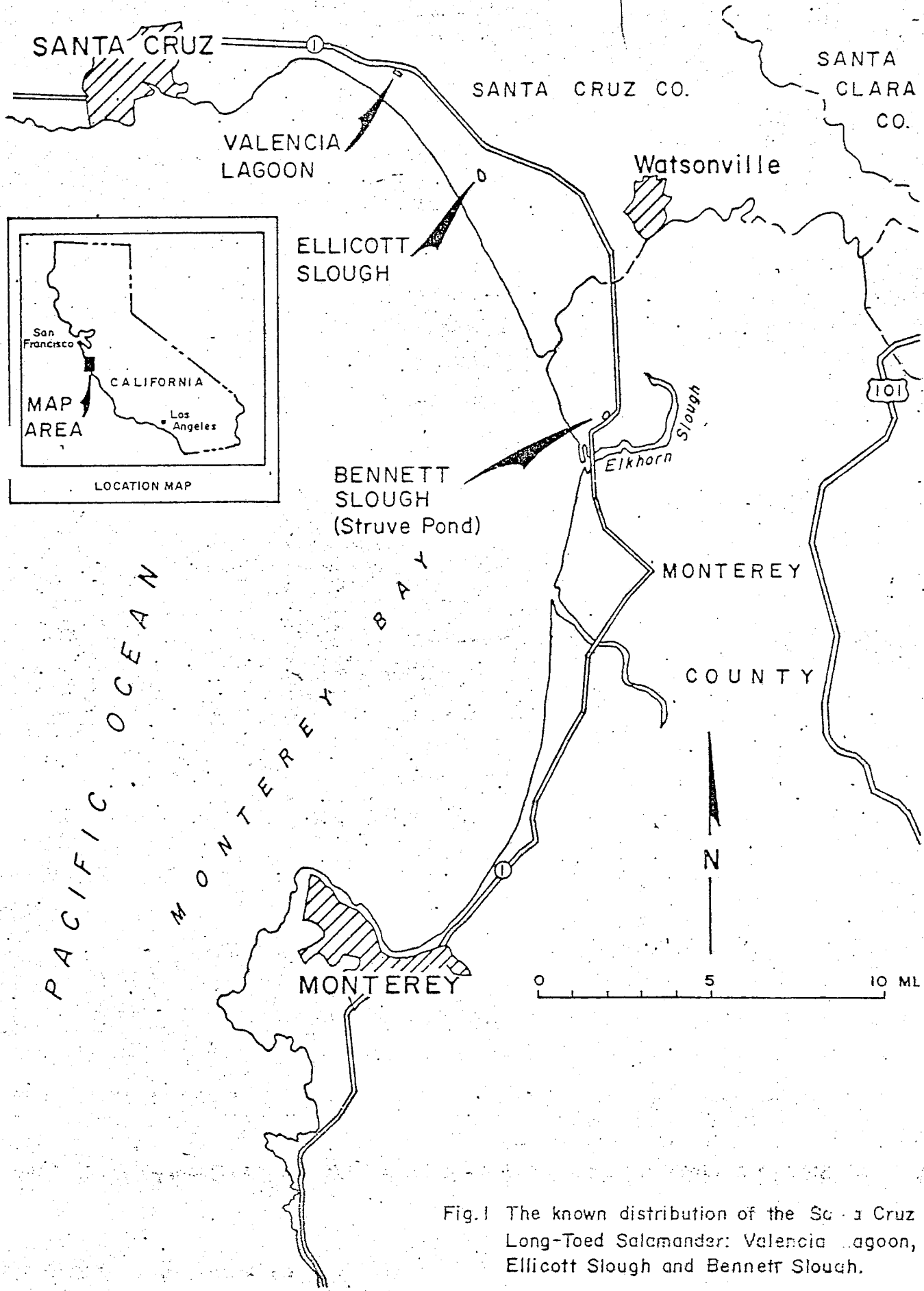

Fig. 1 The known distribution of the Santa Cruz Long-Toed Salamander: Valencia Lagoon, Ellicott Slough and Bennett Slough.

TABLE OF CONTENTS

I. GENERAL

A. Introduction

The U. S. Fish and Wildlife Service is in the process of acquiring approximately 128 acres of land immediately surrounding Ellicott Slough, 4 miles west of Watsonville in Santa Cruz County, California (Fig. 1). The purpose of this acquisition is to enhance the survival prospects of the Santa Cruz long-toed salamanders (Ambystoma macrodactylum croceum) that breed in the Slough. This salamander subspecies is considered by the Department of the Interior to be endangered because of foreseeable and past destruction of its restricted habitat.

The Endangered Species Act of 1973 (87 Stat. 884) and previous land acquisition legislation authorize the Secretary of the Interior to conserve endangered animals by implementing a land acquisition program with funds made available by the Land and Water Conservation Fund Act of 1965 (45 Stat. 1222).

Utilizing information from a number of research studies, the U. S. Fish and Wildlife Service and the California Department of Fish and Game have jointly formulated the present proposal. Within the boundary of the proposed salamander preserve are six privately-owned tracts and one right-of-way, in five ownerships. The boundary also incorporates Ellicott Slough (the breeding pond) and some of the adjacent upland -- a tract of approximately 30.5 acres which was bought by the State of California to preserve essential breeding habitat for the salamanders. These upland tracts constitute the presently known terrestrial habitat utilized by the Ellicott Slough long-toed salamander population during the nine or ten months of the year which constitute the nonbreeding season. After acquisition it is proposed that the area be managed under a cooperative agreement with the Resources Agency of California. Such management will encourage the reestablishment of natural vegetation, control erosion, prohibit off-road vehicle use by fencing and/or patrol, and ensure that public use is compatible with salamander use of the area.

B. Climatic and Habitat Conditions

The climate of the Santa Cruz vicinity is Mediterranean with the annual rainfall of 32 inches occurring predominantly between November and March. There is thus a distinct wet season when surface runoff can be heavy, and when temporary ponds and ditches fill with water. The last two years' precipitation, however, has been extremely low and has seriously affected the salamanders' phenology, i.e., the salamander begins its migration from its summer retreat to the breeding pond with the onset of the rainy season in late September and October. The peak breeding time is during January and February because the early rains are not usually sufficient to fill the ephemeral pond. The main pond did not fill in either 1975 or 1976 and no breeding occurred.

C. Land Acquisition

1. Fee Title

In 1975 the Service acquired title to Tracts (10, a) consisting of 41 acres.

In 1976 the Service acquired title to Tract (12), consisting of 74 acres. The 3 remaining ownerships, totaling approximately 11 acres, will probably have to be acquired via condemnation.

2. Easements

In 1975 the Service acquired an access road easement consisting of 1.12 acres.

3. Other

A cooperative agreement between the California Department of Fish and Game and the U. S. Fish and Wildlife Service for the management of the area is being drafted.

Appraisal of Tract (14) was approved.

A contract appraisal of Tract (12) was completed and approved.

D. System Status

1. Objectives

A Santa Cruz Long-toed Salamander Recovery Plan was drafted in October; it will serve as the management plan for the area. The prime objective of the plan is to restore the salamander to a non-endangered status via maintenance of the Ellicott Santa Cruz long-toed salamander's population at or above present levels and maintenance of the habitat in an optimum condition.

2. Funding

In 1976 the San Francisco Bay National Wildlife Refuge Complex was allotted $3,000 for the specific commitment of assigning a portion of a biologist's time and salary to assist in the production of the Santa Cruz Long-toed Salamander Recovery Plan.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Nothing to report.

B. Maintenance

A special use permit was issued to a private demolition team for the razing of the dilapidated structures on the Fisher Tract (10, a). The exterior boundary of aforementioned tract was posted and signed.

A contract was awarded to the Silva Fence Co. for approximately 600 feet of boundary fencing on the Green Tract (12).

C. Wildfire

Not applicable.

III. HABITAT MANAGEMENT

A. Croplands

Not applicable.

B. Grasslands

Hillside erosion caused by off-road vehicles (mainly motorcycles) is a serious problem. Thus representatives from California Department of Fish and Game, Soil Conservation Service, Geological Survey, Cabrillo Junior College, and Fish and Wildlife Service met and agreed that erosion control measures should be initiated before the winter rains. Ten Cabrillo Junior College students worked with handtools for two weeks. They constructed "water bars" (earthern barriers for runoff water diversion) along several eroded trails and then placed straw over them. The effectiveness of these bars will be monitored.

C. Wetlands

For the second consecutive year, because of the lack of rain, the breeding pond did not fill. The Committee for the Management and Recovery of the Santa Cruz Long-toed Salamander recommended that water be pumped from a well onsite to the breeding pond. The California Department of Fish and Game is exploring this possibility.

D. Forestlands

Not applicable.

E. Other Habitat

Not applicable.

F. Wilderness and Special Areas

Not applicable.

G. Easements for Waterfowl Management

Not applicable

IV. WILDLIFE

A. Endangered Species

The Santa Cruz Long-toed Salamander Recovery Team has submitted the Recovery Plan to the U. S. Fish and Wildlife Service for approval.

The Committee for the Management and Recovery of the Santa Cruz Long-toed Salamander continues to meet as necessary.

B. Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

The proposed Santa Cruz Long-toed Salamander Recovery Plan provides for:

a. Installation of an information, interpretive sign at Ellicott Slough;

b. Establishment of a public use program which will operate without damage to the habitat or to the Santa Cruz long-toed salamander populations;

c. Establishment of a conservation education program on the Santa Cruz long-toed salamander

and natural history of the State's ecological reserve and our Refuge; and

d. Establishment of an aesthetic and safe area for controlled-limited public use.

2. Off-Refuge

The proposed Santa Cruz Long-toed Salamander Recovery Plan provides for a public awareness of the Santa Cruz long-toed salamander through visual and audio programs. Goals are:

a. To provide television and radio spot programming to television and radio stations;

b. To provide visual and audio programs for public displays throughout the State; and

c. To prepare an informational brochure on preservation of the Santa Cruz long-toed salamander.

B. Recreation

Not applicable.

C. Enforcement

The most pressing environmental problem at Ellicott is the severe erosion. Most of the damage has been the direct result of the use of the area by off-road vehicles, specifically two-wheeled dirt racing motorcycles.

Santa Cruz County Ordinance (Section 4.55.020 SCCC) forbids trespass on private property with an off-road vehicle without the landowner's written permission in possession. California Department of Fish and Game personnel, utilizing this ordinance and Fish and Game Code Section 1583, trespass on an ecological reserve, increased patrol efforts significantly during 1975. This resulted in 20 court cases. The same amount of

patrol effort was not expanded during 1976. Only one off-road vehicle case was reported; however, local residents indicated that there were a number of off-road vehicle incidents.

While there were no citations issued for dumping or littering, this does appear to be a problem.

VI. OTHER ITEMS

A. Field Investigations

Dr. Richard Sage, University of California, plans to make an electrophoretic comparison of protein molecules from tissue samples to measure the genetic distinctiveness between the long-toed salamander and the subspecific Santa Cruz long-toed salamander. Dr. Sage must obtain necessary State and Federal permits, and plans to collect 20 to 30 larval specimens in the spring of 1977. This study has received the endorsement of the Committee for the Management and Recovery of the Santa Cruz Long-toed Salamander.

B. Cooperative Programs

Not applicable.

C. Items of Interest

See San Francisco Bay NWR.

In accordance with P.L. 88-523, a revenue sharing payment of $2,250.85 was made to Santa Cruz County.

D. Safety

See San Francisco Bay NWR.

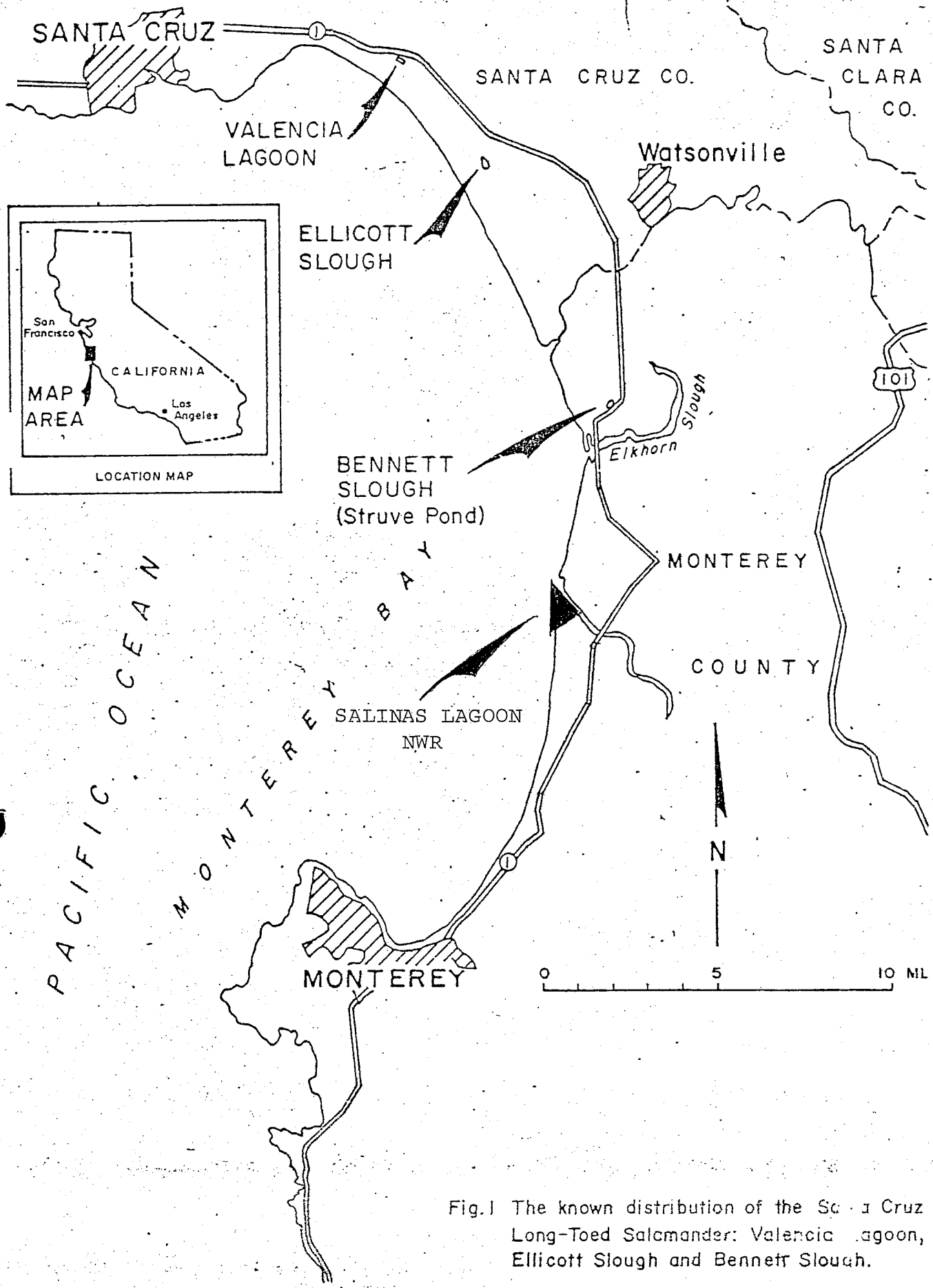

Fig. 1 The known distribution of the Santa Cruz Long-Toed Salamander: Valencia Lagoon, Ellicott Slough and Bennett Slough.

TABLE OF CONTENTS

I. GENERAL

A. Introduction

During the spring of 1973, 424 acres of excess property from the U. S. Army and 94 acres of excess property from the U. S. Coast Guard were transferred to the Fish and Wildlife Service. The two tracts are contiguous and are managed as one unit, i.e., Salinas Lagoon National Wildlife Refuge. The location of the Refuge is 11 miles northeast of the City of Monterey at the confluence of the Salinas River and Monterey Bay. In September of 1974, a cooperative agreement was effected between the U. S. Fish and Wildlife Service and the California Department of Fish and Game allowing the latter agency to manage the area as the "Salinas River Wildlife Management Area."

B. Climatic and Habitat Conditions

The Salinas Lagoon National Wildlife Refuge/Salinas River Wildlife Management Area is an important coastal wetland. It consists of the following habitat types: ocean - 130 acres, beach - 22 acres, lagoon - 45 acres, river - 74 acres, sand dunes - 32 acres, salt marsh - 78 acres, grassland - 44 acres, and former cultivated land - 93 acres.

C. Land Acquisition

1. Fee Title

The acreage referred to in Section A was transferred to the U. S. Fish and Wildlife Service in fee title in 1973.

2. Easements

Nothing to report.

3. Other

Nothing to report.

D. System Status

1. Objectives

The objectives stated in the California Department of Fish and Game's Management Plan for the Salinas River Wildlife Management Area are as follows:

The primary purpose of the area is to provide habitat for wildlife species especially those species dependent upon coastal wetlands.

The secondary objective is to allow human uses such as observation, fishing and hunting as long as these uses are compatible with the first objective.

Basic environmental data are needed to assess successional vegetative stages and development programs. Density data for water-associated birds and habitat-type mapping have been obtained. Density data for other birds and mammals need to be developed.

Sand dunes have received much abuse by off-road vehicles. Extensive gouges and loss of vegetation are results of this abuse. An objective is to stop all unnecessary vehicle use and allow dune vegetation to recover. Vehicles shall be restricted to one parking lot near the entrance to the property.

Portions of the former agricultural lands not suitable for wetland restoration should be allowed to revert or be developed for upland wildlife species.

Approximately 2,000 feet of riverbank are in need of stabilization. Car bodies which formerly stabilized the bank were removed by the County. An objective is to stabilize this bank with vegetation.

Ponding of the former agricultural land will be accomplished within the limits of suitable soils, water availability and finances.

Overnight camping will not be allowed. The area's small size and lack of finances precludes this activity.

2. Funding

Not applicable. Any administrative or law enforcement work performed for the area has been funded under the San Francisco Bay National Wildlife Refuge Complex's operating cost budget.

II. CONSTRUCTION AND MAINTENANCE

A. Construction

Nothing to report.

B. Maintenance

Nothing to report.

C. Wildfire

Not applicable.

III. HABITAT MANAGEMENT

A. Croplands

No farming currently exists on the wildlife area. Prior to the State's management of the area, 70 acres had been cultivated for artichokes and cauliflower via a special use permit.

B. Grasslands

Nothing to report.

C. Wetlands

Nothing to report.

D. Forestlands

Not applicable

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Not applicable.

G. Easements for Waterfowl Management

Not applicable.

IV. WILDLIFE

A. Endangered Species

In addition to the California clapper rail and brown pelican, the Smith's blue butterfly was added to the endangered species list in June. This butterfly lives on coastal sand dunes in Seaside, Marina and Fort Ord, Monterey County. The Seaside and Marina populations have been almost eliminated by housing developments and highway construction, while the Fort Ord population has been seriously affected by heavy foot and vehicle traffic and the spread of exotic plants.

B. Migratory Birds

Nothing to report.

C. Mammals and Non-Migratory Birds and Others

Nothing to report.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

The area is composed of one unit totaling 518 acres. It is owned by the Service, is a part of the San Francisco Bay National Wildlife Refuge Complex, and is administered by agreement with the California Department of Fish and Game as a State Wildlife Management Area. The western boundary is 300 yards out in Monterey Bay, the northeast boundary lies in the Salinas River channel, and the southern boundary borders private agricultural lands. The area is currently posted with Fish and Game Wildlife Management Area signs and a graveled parking lot is planned for the near future.

2. Off-Refuge

The Salinas Lagoon area is listed in a Department of Fish and Game pamphlet which covers regulations for hunting on State and Federal areas. There has been no other attempt to inform the public about this area.

B. Recreation

1. Wildlife Oriented

Historically the following types of recreation have occurred on the area: waterfowl hunting, bird watching, steelhead fishing, surf fishing, off-road vehicle use, horseback riding, dog training and shooting practice. The primary purpose of the area is to provide habitat for wildlife species, especially those species dependent upon coastal wetlands. The secondary objective is to allow human uses such as observation, fishing and hunting as long as these uses are compatible with the first objective.

Under the State's management plan, hunting and fishing have been allowed. There has been no attempt to limit the number or kind of users on the area at any one time. Restricting vehicles to the proposed parking area near the entrance of the Refuge will upgrade all of the current recreational uses.

2. Non-Wildlife Oriented

The sand dunes have received much abuse by off-road vehicles. Extensive gouges and loss of vegetation are results of this abuse. Vehicles restricted to the parking area near the entrance will allow dune vegetation to recover. Foot travel and horses will provide access beyond the parking area. It is proposed that camping be discontinued. The State has estimated that approximately 12 man-days per year will be required for fence repairs; trash pickup; and to monitor habitat changes, wildlife use, and human use.

C. Enforcement

The Refuge/State Wildlife Management Area lies approximately 70 miles south of San Francisco Bay, but shares in the phenomenon of being "open space" in a metropolitan area exceeding 5 million people.

Visitor use on the area varies with the seasons and the availability of species to be hunted, fished or observed. Past use of the area, resulting in dune destruction by off-road vehicles and littering, needs to be curbed. In this area 134 bird species have been recorded including 2 endangered species, the brown pelican and the California clapper rail. There is a possibility that the Smith's blue butterfly, recently listed as endangered, may be found in the dune area.

Limited patrol by the Refuge staff resulted in no citations being issued, but sufficient information has been accumulated to indicate that the following problem areas exist.

Hunting

Hunting - Closed Season (Waterfowl)
- No License
Take - Unplugged Shotgun (Waterfowl)
- Protected Nongame Birds
- After-Hours (Late Shooting - Waterfowl)
- Motorboating (Waterfowl)

Fishing

Fishing - No License
Take - Two Poles

Non-Wildlife

Littering
Off-Road Vehicle Trespass

VI. OTHER ITEMS

A. Field Investigations

Not applicable.

B. Cooperative Programs

Refuge staff met with Region III Department of Fish and Game personnel to review the cooperative agreement and to renew it for another year.

C. Items of Interest

See San Francisco Bay NWR.

In accordance with P.L. 88-523, a revenue sharing payment of $3,828.23 was made to Monterey County.

D. Safety

See San Francisco Bay NWR.